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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,690	02/05/2004	Leslie G. Fritzemeier	038190/273847	5143

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EXAMINER
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JENKINS, DANIEL J

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/772,690

Applicant(s)

FRITZEMEIER ET AL.

Examiner

Daniel J. Jenkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/7/04</u> . | 6) <input type="checkbox"/> Other: _____  |

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 4, 5 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Liao, X.Z, et al., "Deformation Mechanisms..." (Liao et al.).

Liao et al. disclose an aluminum alloy comprising:

providing an AlMg alloy powder (page 324, first paragraph);

cryomilling the AlMg alloy powder to form a nanostructured powder (page 324, Results and Discussion).

Liao et al. disclose a Mg amount of 7.5 wt%.

Liao et al. further discloses wherein the grain structure of 10-30 nm (see top page 325 and Fig. 1(c)).

Liao et al. do not disclosing addition of refractory material during alloy processing.

The Examiner finds the nitrogen content limitation to be inherent. This finding is based on what one of ordinary skill would expect in the art based on processing similar material under similar conditions of liquid nitrogen, similar milling time, and producing similar nanostructure grain size.

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Liao et al. is silent as to the grain structure as being stable at temperature limitations, but the Examiner finds this limitation to be inherent based on similar material and processing conditions.

The Examiner notes that the limitation to the tertiary metal in claim 3 still allows for the "up to about" amount of claim 1, thus still allowing for a zero inclusion.

3. Claims 1, 6, 10 and 11 are rejected under 35 U.S.C. 102(a) as being anticipated by Lee et al.

Lee et al. discloses an aluminum based alloy comprising:

10% Ti;

2% Cu; and

remainder Al.

Lee et al. further disclose cryomilling the AlMg alloy powder to form a nanostructured powder with 300-500 nm grain structure (see page 656, last paragraph).

Lee et al. is silent as to the grain structure as being stable at temperature limitations, but the Examiner finds this limitation to be inherent based on similar material and processing conditions.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liao et al.

Liao et al. disclose the invention substantially as claimed (see paragraph 2 above).

However, Liao et al. do not disclose wherein the alloy powder is formed into an extrusion or forging, but forms the powder by pressing.

It is common knowledge in the prior art to form formed aluminum based powders into complex shapes by extrusion followed by forging in order to form a dense article of complex geometry.

It would have been obvious to one having ordinary skill in the art at the time of the invention to form the Al based powder of Liao et al. by extrusion and forging in order to arrive at complex shaped Al parts.

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7. Claims 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al.

Lee et al. disclose the invention substantially as claimed (see paragraph 3 above).

However, Lee et al. do not disclose wherein the powder is formed into an extrusion or forging, but forms the powder by pressing.

It is common knowledge in the prior art to form formed aluminum based powders into complex shapes by extrusion followed by forging in order to form a dense article of complex geometry.

It would have been obvious to one having ordinary skill in the art at the time of the invention to form the Al based powder of Lee et al. by extrusion and forging in order to arrive at complex shaped Al parts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Jenkins whose telephone number is 571-272-1242. The examiner can normally be reached on M-TH6:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1242. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel J. Jenkins  
Primary Examiner  
Art Unit 1742

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